

To: Suchomel, Bruce[Suchomel.Bruce@epa.gov]
Cc: Mike Hackney[mhackney@pgei.com]; Gallant, William[Gallant.William@epa.gov]
From: Jessie Graham
Sent: Wed 9/9/2015 10:50:24 PM
Subject: Re: Antelope Creek

Bruce,

I am currently out of the office and I will be back on Monday the 14th.

Mike and I will discuss the items below on Monday and we will call you Tuesday.

Thanks,
Jessie Graham

Sent from my iPhone

On Sep 9, 2015, at 14:37, Suchomel, Bruce <Suchomel.Bruce@epa.gov> wrote:

Mike/Jessie:

We're beginning our review of your application to expand the area permit and to add wells.

Here are some items we'd like to discuss with you within the next week or so – by next Wednesday?

- Area Permit expansion: the area is quite small. Are there plans to expand further? Should we just do an individual permit for the one well?
- As mentioned before, a Cultural Survey will need to be conducted on land areas under an expanded area permit. We will need to consult with the Utah SHPO.
- A Biological Assessment (BA) will need to be conducted on land areas under an expanded area permit. We will need to consult with the USFWS.
- Do you have an UIC conversion well priority established?
- Validated Step Rate Tests (SRT)
 - o 0.88 psi/ft is the proposed Fracture gradient. We'd like any available past SRT results. Petroglyph will most likely need to conduct a number of SRTs.

- CBLs – Nine of the proposed injector well CBLs used old techniques that make it impossible to determine the CBI. We will most likely need these to be redone.
- Sundry Reports - we need all the sundry reports for all of the injector and AOR wells.
- Depth to USDW – Petroglyph may have calculated the depth to USDW using another technique other than using Special Study 144. We need to know what the depth to the USDW is based on. (e.g., Resistivity logs, interpolation between known values from SS 144, etc). We may need to compare these with SS 144.
- Deviation logs – We'll need deviation logs where appropriate as there are several directionally drilled existing production wells that are affected by the injection well requests.
- Specific Gravity- The proposed 1.00 needs to be discussed. While we realize the injectate will blend fresh water, realistically we may need to have another value calculated.
- It would be desirable to have a type log (Geophysical)with key markers noted that is representative of the Area Permit and injection and production zones.

Bruce Suchomel
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